

REVIEW.

ART. XI. *Observations on the Structure and Diseases of the Testis.*
By Sir ASTLEY COOPER, Bart. F. R. S., &c. pp. 245, large quarto,
with plates. London, 1830.

IN undertaking a short analysis of this work for the information of our readers, it affords the greatest pleasure to express a conviction of its value, and of the many important professional precepts which it contains. The entire style in which it is got up, reflects much credit on the British press, and is evidently the result of much labour on the part of its distinguished author. The typographical part is finely executed, and the anatomical and pathological features elegantly illustrated by plates, each of which contains a number of figures representing natural colours. Sir Astley Cooper's name is so favourably known in the United States, that it requires no preparation of the public mind to receive indulgently his professional contributions. In addition to the intrinsic merit of the work under review, we cannot be less than much pleased in seeing one so abundantly rich as he is in professional honours, and in the means of personal comfort, still manifesting a zealous loyalty to his profession, and in the midst of every temptation to indulgence and relaxation, augmenting his well-earned fame, through the arduous course of dissections and clinical observations, and closing his professional life by bestowing such excellent legacies on his successors. In this he executes what all old practitioners recommend, but unfortunately too few perform.

The subjects treated of are the anatomy of the testis—its acute inflammation—simple chronic diseases—irritable testis—its inflammation from mumps—hydatids—scrofulous inflammation—venereal inflammation—ossific inflammation—scirrhus and fungoid diseases—castration—hydrocele—inflammation of the tunica vaginalis—cartilaginous bodies in the tunica vaginalis—fungoid inflammation in the same—hæmatocele—varicocele and chimney-sweeper's cancer. From the preceding list it will be seen that its range is extensive, and at least includes all the diseases of the testis that the practitioner is commonly called upon to manage.

Anatomy of the Testis.—This part of the subject has been treated in considerable detail, and the observations are, in general, confirmatory of the views of the best authorities. His injections and dissec-

tions seem to have been from the representation of them remarkably successful. There are, however, some peculiarities in his opinions. The average measurement of the testis he gives as two inches, by one and a half. This is certainly beyond the standard of the United States. The notion of a dartos muscle is repudiated in toto; in this opinion, however, we think the learned author rather too exclusive—for though in by far the majority of subjects its vestiges are extinct, yet occasionally the muscular character is very distinct, particularly when the colour has been evolved by the use of nitre. We also think contrary to his assertion, that the natural motions of the scrotum are in favour of this muscularity. Sir Astley considers the tunica albuginea to consist of two laminæ, the outer one resembling in its fibrous character the sclerotic coat of the eye—and the inner layer, which he calls the tunica vasculosa, and which he asserts to be highly vascular, and carrying its prolongations through the substance of the testis, to furnish pouches which conduct the blood-vessels, and envelope the tubuli seminiferi. This is an improved modification of the ordinary description of the septulæ testis. The corpus highmorianum, which exists at the back of the testis, Sir Astley, without referring to the established name, or indeed seeming to consider the knowledge of the part as common place, proposes, we think with very equivocal utility, to call the mediastinum testis. We have no objection to the term itself, but as the former is sanctioned by long and general usage, the introduction in its place of a new one, is detrimental, by a multiplication of terms, in a science already profuse in them. This effort, by the way, is not the only one in his book, and as the objection is equally applicable in other instances, we would here, as the advocate of anatomy, enter our general protest against it. There is no individual now alive, whose reputation can effect such substitution with the body of experienced anatomists, and a partial reform merely serves to make the inexperienced, misunderstand.

It will be unnecessary to trace the author through the description of the several parts of the testis, and its auxiliary structure; the whole is executed, as stated, much in detail, and in a very elaborate though satisfactory manner. The author coincides with Mr. JULIUS CLOQUET, on the anatomy of the cremaster muscle, (p. 42,) but does not refer to this very eminent anatomist as the origin of his information, in which we think he has made rather an exceptionable omission, considering that the observations of Mr. Cloquet on this subject are comparatively recent. We would indeed remark further, that as much of this work is devoted to pure anatomical descriptions of the testis, it as a scientific production, is singularly and rather lamenta-

bly destitute of reference, to what has been done by other able men, on precisely the same subject. Though elaborate, it is written with as much naiveté as if its excellent author were nearly all the time upon ground heretofore unexplored, either by his own countrymen or others. We do not think that the actual degree of novelty in it, compensates fully, for the omission of ordinary scientific acknowledgments. A strong personal regard for the author, inclines us to touch with lenity its defects; and yet this is one which perhaps the paramount interests of anatomy justify us in pointing out. We have indeed been frequently struck with the *insular* character of medical works emanating from the London press, and would scarcely suppose from the poverty of reference in them to the scientific labours of foreigners, that they radiate from a point of the globe, connected with other countries by almost innumerable channels of trade. Sir Astley is known to cultivate the most hospitable and liberal intercourse with foreign professional men; we therefore feel mortified in seeing this quarantine of other good works established in his own, especially when the latter might have been improved, by relaxing it somewhat. Living as we Americans do, at a great distance, and under circumstances unfavourable to national partialities or prejudices, we view tranquilly the scientific labours of all countries; we have no objection to receive such information as is useful, and as little hesitation in rejecting such as is trivial, and brought forward by the influence of high names or strong state connexions. Should these lines ever meet the eye of the distinguished author, we are assured that they will communicate nothing new to him in quoting, as also well worthy of study, the excellent plates and descriptions of ALBINUS, HALLEN, LODER, RUYSEN, MUNRO, HUNTER, &c. &c. on the same topic, none of which are referred to by him.

The acknowledged difficulty of injecting the tubuli seminiferi will make the following hint valuable.

"Having traced the canals of the rete (testis) and found that they were situated in and completely inclosed in the tunica albuginea, it struck me that I might inject these tubes with glue, or even coarse injection, by passing a fine silver or steel pipe into the canals of the rete; and having made trial of this plan, I have injected the tubuli seminiferi with coloured fine injection, and the vasa efferentia were also readily filled, and have been thus able to make some beautiful preparations, more easily dissected and much less easily spoiled, than those which are made by injecting the tubes with quicksilver. The rete can even be filled with coarse injection, and the beginnings of the tubuli and of the vasa efferentia will receive the injection. If the injecting pipe be placed in the back of the mediastinum, the injection readily escapes into the absorbent vessels, and those of the spermatic cord become filled."

Diseases.—The following observations exhibit a qualified and rational view of certain doctrines which were once very prevalent, and will perhaps indicate the general tenor of the author's mind on those points:—

“*Hernia humoralis* has been the term usually employed by surgeons, to express the inflammatory state of this organ (the testis;) but it is an appellation obviously founded in false physiological views, and upon mistaken pathological principles. The humoral pathology has vanished under better defined, and more correct pathological opinions; and diseases are at present attributed more to the altered actions of the solids, than to a change in the nature of the fluids. Yet perhaps the moderns have gone into a contrary extreme, and have too much lost sight of the fluids in the morbid changes of the body. For it is clear that the secreted fluids are often so changed in their nature, as to be capable of producing disease, and even of becoming poisonous—as the mucus of the urethra, in gonorrhœa—the matter of a chancre—the secretion of a small-pox pustule—and the fluid of a vaccine vesicle. My friend Mr. Colman has also found, that if the blood of a horse affected with glanders, be injected into the veins of another and healthy horse, it will produce the glanders in that animal; and thus he proves, by direct experiment, that the fluids are affected in that disease, as well as the solids; for its blood, the mucus of the membrane of the nose, the sinuses of the bones of the head and face, and even the lungs themselves, are brought into a diseased state. But still the term *hernia humoralis* is most improperly applied to inflammation of the testis; for although the disease be the consequence of gonorrhœa, it has nothing gonorrheal in its character, or venereal in its nature, and if I were not fearful of being thought affected, I should give it the name of *testitis*.”

These views will probably receive the sanction of most practical pathologists of the present day, and we would merely remark, that the author's difficulty of a good name, has already been overcome for some years past, by the adoption of that of *didymitis* by very excellent authority,* upon admitted principles of the modern and improved nomenclature of diseases.

Sir Astley recommends for this affection an active antiphlogistic treatment, with suspension of the part, and a recumbent position, in fact, the mode of management commonly adopted. Should circumstances render the application of leeches inconvenient, he considers that a good substitute may be found in puncturing, transversely, three or four veins of the scrotum with the point of a lancet, the patient being upright. They will bleed freely, especially if the scrotum be placed in warm water, and upon the patient lying down the bleeding will cease.

Should the depleting practice not succeed, from a peculiar irrita-

* Roche and Sansom.

bility of the patient's system, our author recommends submuriate of mercury, with Dover's powders; but he specifies neither the dose nor the duration of such treatment. He considers that immediately upon the formation of matter by suppuration, a free opening should be made into its focus, to prevent the destruction of the tubuli semiferi.

For the chronic induration and enlargement of the testis, consequent to its acute inflammation, Sir A. recommends various ointments, the basis of which is either mercury or iodine—he speaks highly of an oiled silk bag; also of the internal mercurial treatment, &c. From the variety of his prescriptions, we are inclined to think that he, like the rest of us, has found this rather an untractable affection.

The chapter on irritable testis is highly interesting; the affection is principally known by an undue and permanent sensibility of the part, attended with but little tumefaction. All motion and even handling is attended with an increase of pain. Sir A. says that it sometimes endures for years, and that he has found it occasionally so untractable, attended with so much distress, and producing such complete inaptitude for business or pleasure, that he has been thrice compelled to acquiesce in the wishes of patients to obtain relief from an operation. The author does not consider this disease to be inflammatory, but rather of the nature of *tic douloureux*. On dissecting the testicles which he removed for it, he found no apparent change of structure in any of them. His treatment is tonic, narcotic, mercurial, and revulsive, but not depletory.

On hydatid disease, Sir Astley remarks, that there is so strong a resemblance between it and hydrocele, that it is occasionally misunderstood by the most experienced practitioners of the metropolis.

"I know there are persons who never confess an error, but give all their successful cases to the world, carefully concealing those that are unfortunate, and thus lead young men to believe that our profession is much more successful than it really is; but this is a most unfair procedure, for it is only by a comparison of success and misfortune that a fair and honest conclusion can be drawn. A surgeon once said to me, 'you are foolish in mentioning your unsuccessful cases, which the world will discover soon enough.' To which I might have replied, 'you are dishonest in relating those only which are successful, as you thus give an improper colouring to your profession.'

"For myself, I confess that I have been two or three times mistaken, and put a lancet into the part, expecting to find water issue, and a few drops of blood only have followed. But further I will observe, that I have no shame in confessing this, nor have I seen mischief arising from it; but on the contrary, in doubtful cases, I recommend that a small incision be made into the tunica vaginalis, to ascertain if it contain a fluid or not. In doing this, no injury can happen to

the testis, and the surgeon's mind is completely at rest respecting the existence of hydrocele."

In addition to this test, Sir Astley considers that the following diagnostics should be attended to in hydatid disease:—A yielding rather than a fluctuation—a heavier swelling—the general form of the testis being preserved, although it is somewhat more pyriform—the entire absence of transparency—the sensation of the testis being squeezed, if the compression be considerable—the dilated state of the vessels of the cord and scrotum—and the testis in hydrocele being felt at the lower and back part of the swelling.

Our personal experience is in favour of the difficulty of distinguishing between hydrocele and hydatid disease, and we have seen one case where the affection was not cleared up until a trocar was introduced in fact for a hydrocele, and the water drawn off.

Sir Astley considers all other treatment but extirpation as useless in this disease, and his experience teaches that to be completely successful. We are sorry that we cannot join him in this experience, in two cases which have come under our view, and where the testicle was the size of a large ostrich egg; it was found to be attended with great enlargement and fungoid degenerescence of the lumbar lymphatic glands. In the one case the patient died shortly after the operation, and in the other at a more remote period. The plate on this disease is admirably executed.

The scrofulous inflammation of the testis, is considered by the author to be merely the result of that vitiation of our tissues which occurs in the scrofulous diathesis; he has given the several indications of this which we have no occasion to repeat. He considers the most of the secretory glands as exempt from this degenerescence excepting the testicle, which is subject to it from puberty till manhood, and occasionally even in infancy. This affection is marked by swelling, without pain, and having a very slow increase; the scrotum is undischoloured, and its veins are not enlarged. After a while suppuration follows, and most frequently in the epididymis. If the affection be not cured, the testis wastes away, until only a very small portion is left.

As Sir Astley views this as a disease of debility, he accordingly recommends air, sea-bathing, tonics, alteratives and iodine; to cure the sinuses which are left he uses stimulating injections.

Venereal inflammation of the testis, which may be doubted by some, our author speaks of as having frequently presented itself to him, along with the secondary symptoms of syphilis. His remedy for it, is a course of mercury.

His observations on fungoid disease present the characters of this affection in extenso, and in a very interesting light. When once formed he considers the complaint as hopeless, for it runs on to a fatal termination in spite of internal remedies, castration, or any thing else which has been heretofore devised. He, notwithstanding, recommends the removal of the testicle within three months of the beginning of the disease, and the use of alterative medicines to prevent the return of the latter. It is scarcely necessary to state that this alterative plan consists in the administration of the preparations of mercury. As the cases quoted in illustration were all fatal, we have yet to learn whether the treatment will succeed.

On the subject of varicocele, Sir Astley recommends the palliative treatment in common use, as a suspensory bandage, refrigerant lotions, and avoiding tight clothing about the abdomen. He puts no confidence in tying up the spermatic veins, and makes the following remarks thereon.

"It is an operation which I should dread most exceedingly, as placing the life in great hazard, and which I would not therefore recommend: for operations upon veins, from the great irritability of those vessels, are more dangerous than those on arteries, extended inflammation sometimes following, sometimes even to the heart itself; and often a suppurative inflammation on their inner coats, which I have several times seen destroy life in operations on the veins of the extremities."

In taking our leave of this production, we feel it a duty to express again our sentiments of its value, and to recommend it to the attention of the medical public.

W. E. H.